

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
19 May 2005 (19.05.2005)

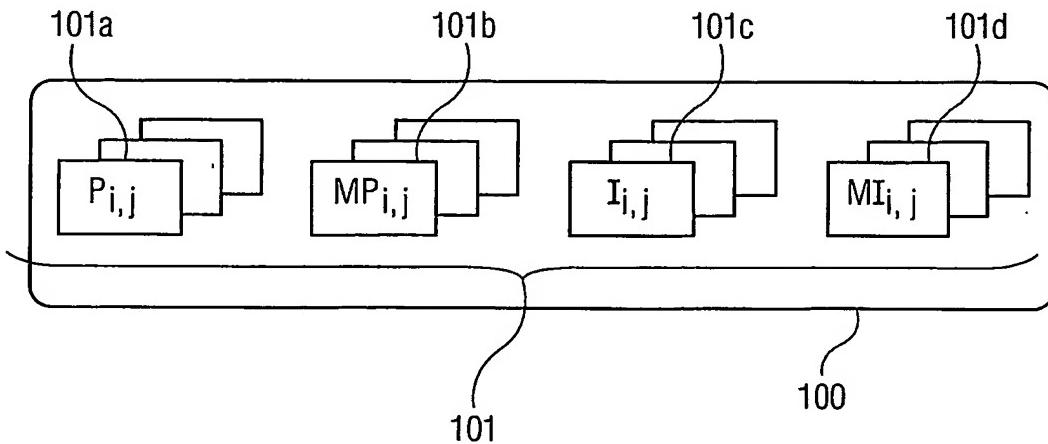
PCT

(10) International Publication Number
WO 2005/045666 A2

- (51) International Patent Classification⁷: **G06F 9/40**
- (21) International Application Number: **PCT/IB2004/052312**
- (22) International Filing Date: **4 November 2004 (04.11.2004)**
- (25) Filing Language: **English**
- (26) Publication Language: **English**
- (30) Priority Data:
60/518,007 6 November 2003 (06.11.2003) US
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- (81) Designated States (*unless otherwise indicated, for every kind of national protection available*): **AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.**
- (84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): **ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,**

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(54) Title: AN ENHANCED METHOD FOR HANDLING PREEMPTION POINTS



(57) Abstract: A method and apparatus is provided for use by a scheduler of a multi-processing data processing system to select task preemption points based on main memory requirements and exclusive resource usage that is cost-effective and that maintains system consistency and, in particular, enables additional preemption strategies in which: matching synchronization primitives do not span a preemption point, i.e., sub job boundary; for a particular resource R_k, all intervals/sub-jobs of all tasks that use this resource (and protect it by using synchronization primitives) are either all preemptible or all non-preemptible- i. in case they are all preemptible the synchronization primitives must be executed, and ii. in case they are all non-preemptible, it is not necessary to execute the synchronization primitives; preemption of a subset of tasks is limited to the preemption points of this subset while allowing arbitrary preemption of all the other tasks; and preemption of a subset of tasks is limited to their preemption points, preemption of the other tasks is limited to a subset of their preemption points, while allowing arbitrary preemption of their remaining intervals. That is, the present invention is a main memory based preemption technique that is not restricted to preemption only at predetermined preemption points and that avoids deadlock due to exclusive use of resources.

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- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations*

Published:

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